DOCUMENT RESUME

ED 203 626 EC 133 311

AUTHOR Marshall, William J. A.
TITLE Futurism in the Education of the Deaf: Directions and Alternatives for the 80's.
INSTITUTION Model Secondary School for the Deaf, Washington, D.C.
SPONS AGENCY Department of Health, Education, and Welfare, Washington, D.C.
PUB DATE 78
NOTE 51p.
AVAILABLE FROM OUTREACH--Box 114, The Model Secondary School for the Deaf, Gallaudet College, Kendall Green, Washington, DC 20002.

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Curriculum; Deafness; Educational Innovation; Elementary Secondary Education; *Futures (of Society); *Hearing Impairments; Trend Analysis

ABSTRACT

The author presents a rationale for the study of futurism in education and analyzes the effects of significant future changes upon deaf education in the 80s. The roles that change agents play in influencing the permanence of innovations within the school are examined: advocacy, information sharing, and organizational development training. Curriculum considerations, particularly in light of the "back to basics" movement, are explored. The importance of getting all citizens involved in forecasting possible, probable, and alternative futures and in determining which of these futures are preferable is pointed out. Unmet needs in the areas of legislation are summarized. (CL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED203626

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

FUTURISM IN THE EDUCATION OF THE DEAF: DIRECTIONS AND ALTERNATIVES FOR THE 80'S

William J.A. Marshall
Dean and Director

1978

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Leonard Goldberg

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

This publication was sponsored by the Model Secondary School for the Deaf which is authorized and funded by the U.S. Department of Health, Education, and Welfare, through Public Law 89-694. Contractors undertaking such projects under government sponsorship are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official U.S. Department of Health, Education, and Welfare position or policy.

Gallaudet College is an equal opportunity employer. The College admits students of any sex, age, religion, race, color, national and ethnic origin to all the rights, privileges, programs and activities generally accorded or made available to all students who qualify for admission to the College. It does not discriminate on the basis of sex, age, religion, race, color, national and ethnic origin in administration of its educational policies, admission policies, scholarship and loan programs, and athletic and other school-administered programs. Programs and services offered by Gallaudet College receive substantial financial support from the Department of Health, Education and Welfare.

EC133311

Copyright © 1979 The Model Secondary School for the Deaf
Gallaudet College, Washington, D.C.

All rights reserved.

These materials have been developed or revised by teachers and are a part of the curriculum at the MSSD. They are developmental in nature and they will continue to be refined and expanded.

Schools or programs for the hearing impaired may reproduce these materials for their own educational purposes without written authorization.

To obtain additional copies, write: OUTREACH - Box 114, The Model Secondary School for the Deaf, Gallaudet College, Kendall Green, Washington, D.C. 20002.

TABLE OF CONTENTS

INTRODUCTION

A Mental Set 1

Futurism 3

Purpose 5

INNOVATIONS

Opening Statement 9

Change Agents 10

The Endurance of Innovations 12

Empirical Considerations 17

CURRICULUM AND LEARNING

Statement 21

The Basics 22

The Interactive Process of Teacher and Student 27

Summary 33

SOME UNMET NEEDS

In Retrospect 35

Legislation 40

Conclusion 44

REFERENCES 47

FUTURISM IN THE EDUCATION OF THE DEAF: DIRECTIONS AND ALTERNATIVES FOR THE 80'S

For all its utility, the tree of educational futures has its limitations. For one thing, the foliage is confoundingly thick. We can see the trunk of today clearly enough. Too, we have a reasonably unrestricted view of the places higher up where the major branches begin to fork out just a few years into the future. But beyond that . . . clear sight is a little difficult, and a description of the shape, texture and directions of the upper limbs -- the more distant alternative futures of education -- become less and less precise.

David C. MacMichael
Stanford University
Educational Policy Research Center

INTRODUCTION

A Mental Set. In talking about the future, the temptation is great to become a doomsday prophet. It is so easy to be critical. For example, in a statement by Herbert Kohl (Kohl, 1966) a few years back, he sweepingly summarized the last 100 years of investigations and approaches in the education of the deaf as resulting in utter failure! On the other hand, it is so difficult to see good in what surrounds us today and even more difficult to see a brighter day for tomorrow. Perhaps the problem is that we have come to take ourselves too seriously. We may know too much or too little of what we are about. When we come right down to it, who are we to forecast the how, the

---

Excerpts of this paper have been presented to: (a) The Tenth Year Anniversary Forum Colloquia Series, National Technical Institute for the Deaf, October 1978, and (b) VIII Congress of the World Federation of the Deaf at Varna, Bulgaria, June, 1979.

what, the why of tomorrow's accomplishments? Notwithstanding these rhetorical challenges, let us approach this topic of futurism and change in deaf education . . . and change in our own lives, for that matter . . . with much caution and with an element of humility.

Perhaps nothing can give us a more proper perspective than to look around at the picture that time has thus far painted. To help us understand this painting, it would be most instructive to compress into the span of a single year the 15 billion year life span of the universe. This would allow every billion years to occupy 24 days on this cosmic calender. Astronomer Carl Sagan (Sagan, 1977) recently achieved this time compression and admitted it to be an inevitably humbling experience.

What this futuristic calender tells us is that it was not until mid-September that our planet Earth began condensing out of space dust; and that the dinosaurs do not emerge until Christmas Eve; and that men and women do not appear until 10:30 p.m. on New Year's Eve. Thus, all of recorded history is found occupying the last ten seconds of December 31st. From the time when knighthood was in flower, the time of Ponce de Leon -- to whom belongs the honor of beginning the education of the deaf (Bender, 1970) -- to the present occupies but little more than one second!

Once we are thus forced to recognize our proper place in the history of time-past, we can then move on to seek a change in the tomorrow of time-future. We thereby come to link the past to the future by focusing our energies on the problems of time-present. As educators, we must have a healthy respect for the past without becoming fixed on our rear view mirror. The needs of today's youth must be resolved today. However, we cannot drive very far if we content ourselves with looking only at the road immediately ahead of us. We also must look far into the distance to anticipate future conditions and

prepare for any necessary changes of direction. In a sense, then, educators must come to the realization that the future belongs to the discontented.

The seeds of such discontent should inevitably arise from our awareness of problems and from our own willingness to become bothered by these problems. It is only for the problems that bother us that we make efforts to search out new ideas and new ways of doing things. Such discontent with the present, however, must never be equated with pessimism for the future. Pessimists, in pretending to have a corner on the truth, would rather live in a fog of skepticism than to run the risks of disappointment. The moment one admits that there is no hope is the moment when one has nothing to do. That admission is the world's best alibi against action. It takes the wisdom born of courage, born of failure, born of despair, to bounce us back when we are down, so that we can say, against the odds: "Tomorrow will be better."

Futurism. Futurism, futurology, study of the future, futuristics . . . are all synonyms for the scientific exploration of planning for the future. The appearance of the works *Future Shock* (Toffler, 1970) and *Learning for Tomorrow* (Toffler, 1974) challenged the educational world into doing something about arming both students and educators with the abilities to withstand the shocking impact of accelerated change. Toffler describes the study of futures as "the science of charting the probable, the art of imagining the possible, and the politics of determining the preferable."

Much of futures research provides ample evidence that the speed of society's change can only increase in the years to come. If today's students are to function effectively in tomorrow's world, the schools must begin anticipating the directions into which society's change is moving. Thus, in assessing the educational needs of the community, we must look not in terms of where

society has been -- such as returning to the basics that the schooling of our own youth provided -- but we must focus on where we think it is about to be going.

Aside from the avoidance of future shock, along with its attendant pessimism and possible panic, several other rationales can be found for the study of futurism in education. One such rationale is the need to get a handle on social problems caused by an advancing technology. The speed with which technology outdistances one's ability to cope with the resultant change -- ethically, economically, educationally -- forces us to take a closer look at what values society is coming to emphasize. The implication at work is almost a truism, namely, that the schools are a mirror of the society that supports them and are thus on the receiving end of this upheaval.

Another rationale is the necessity for an orderly and comprehensive world view. The need for forecasting in order to avoid the inevitable devastation of present trends provides a cogent basis for the study of educational futurism. Yet the tendency to view the future as a mere projection of past trends can be highly inaccurate and dangerously misleading. If the scientific methodologies of futurism are not abused and over-extended, some cautionary insight into highly specific areas of the future can be gained. A sampling of one set of such tools -- based on probability models, computer gaming, and a mathematical projection of trends -- is Matrix Forecasting, Simulation Forecasting, Markov Chains, Monte Carlo Forecasts, and Alternative Futures Forecasting. A similar, yet somewhat more perceptive, set of scientific tools that analyzes how we got to the point of where we are today and from there move on into tomorrow, is exemplified by Scenario Forecasting, Force Field Analysis, and Delphi Forecasting. Both sets of methodologies alert us to the fact that tomorrow is largely a product of yesterday's decisions.

The relative narrowness of the analyses afforded by these tools, however, should greatly discourage their use by educators as an extensive base for making dominant policy decisions. However limited they might be, they do provide us with a valid input base for projecting the future of the schools. No major issue in education ever sprung up overnight or appeared out of nowhere! Be that as it may, conjecture into the future becomes more of an art than a science. Any undue insistence upon the rigor of scientific, quantitative methods will assure that the vision could not possibly accommodate reality as it unfolds. Any unfolding of reality within a future of the forecast will thus always remain more closely attuned to values, attitudes, political dynamics, and the economics of labor and technology than it will to a statistical analysis of trends.

Purpose. Futurists do not seem willing or able to agree as to what the forecast for tomorrow's education should be, but they do agree on this -- the future will be very different from today. Despite this lack of agreement, there does exist in the minds of futurists a number of areas of consensus concerning the dimensions that education is to assume over the next decade. It is the purpose of this paper to focus on the character of those dimensions as they apply to both regular education and to special education.

In the interests of comprehensiveness, the following enumeration can be looked upon as representative of this implied consensus among educational futurists. Subsequent to this enumeration, it is the intent of this paper to focus on a select few of these dimensions as they are brought to converge upon the future of deaf education in the 80's.

* Most of the conventional purposes of education will be returned to in the 80's; however, the pressures from both society and technology will sharpen our concerns for both the fragility of our environment and for the scarcity of our natural resources.

* The organization of the schools will witness increased delegation of authority, thereby decreasing the amount of decision-making at the top and eliminating the need for bureaucracies.

* The governing space of our schools will broaden through involvement of the family and community within the compass of the educational decision-making process.

* With these changing concepts of governance and representativeness, so also will come new roles for teachers, administrators, students and parents, and also new structures for the school's policy-making and decision-making machinery.

* The administrator's new role will be one of assuming many of the functions which today have been identified as legislative. Due to the complexity of future educational policy issues, the administrator -- more so than the legislator -- will be looked upon as the repository of the technical competence so necessary to comprehend the overall educational picture.

* The schools will come less and less to passively mirror the society around them. Educational leaders will begin intervening and modifying society's values by first accepting the inevitability of change in the value system. Educators can then forecast futures for the direction into which change can move. Such modification of the future directions of value changes prepares educators with the vision to place the schools on a course toward rational futurism, thereby abandoning the evolutionary chance characterizing the present.

* Through a re-examination of dominant values and goals, the schools will help check society's increasing escalation of expectancies. Society's expectancies have escalated from a longing for better living in the 30's . . .

  To a hoping for a better quality of life in the 40's;

  To expecting greater material and human gains in the 50's;

To demanding such gains by an exercise of individual rights in the 60's; and

To an expectation of ever-increasing levels of affluence and leisure in the 70's.

* Humane and academic objectives will become more parallel and less divergent than they are at present. Today's society expects the schools to teach the child how to think, yet the means for achieving such an objective are hardly complementary.

* The individualization of educational programs will increase in order to both meet the needs of each child and to bring learning more into line with what is known about brain functioning.

* The forecasting of educational futures will not call into question the respect for substantive content matter, but will reflect changes in the climate of learning so that new and expanded approaches to such basic content can be explored.

Education will thus continue to change in order to keep pace with a rapidly changing world. Curricular and organizational changes, though necessary, are hardly sufficient. Change in the behavior of educators and the attitudes of society at large are far more crucial. The point is that even though many changes in education are legislatively possible, economically feasible, administratively practical, and publicly acceptable, they are not psychologically admissible for most people. We must first become aware of the need for change before we can become disposed towards the imaginative implementation of such change in the future.

The remaining sections of this paper will address themselves to the roles that change agents play in influencing the permanence of innovations within the schools. Discussions also will be centered on the stance that educators adopt to deal with pressures outside of the schools -- whether it be legislation or

the public's insistence for a back-to-the-basics reform in the curriculum. The enduring theme through all these considerations is the fact that unless the schools adopt an orientation toward the future in their policy platforms, they will run headlong and unprepared into the turbulence of future shocks. This lack of planning will continue to buffet the schools into myriad areas of short-lived and directonless change.

INNOVATIONS

Opening Statement. Innovators of the past have given little attention to the historical dimensions surrouding the more persistent issues and problems in education. They have naively assumed that no one has ever before considered such difficulties. As a result, many current innovations can be classified as revivals or re-inventions of earlier models, thus giving the appearance that history is repeating itself. A few of the many examples of this phenomenon are (a) individualized instruction which was first used by Washburn in 1917, (b) the statement and format of behavioral objectives which were first delineated by Ralph Tyler in 1932, (c) para-professionals who were simply the two-year certificate teachers of the 50's, (d) the national curriculum like BSCS Biology and Physics which has, as its foundations, the recommendations of the 19th Century Committee of Ten, and (e) the open classroom movement which has, as its direct correlate, the whole child movement of the 30's.

There is obviously nothing wrong with our learning from the past, but there is something dangerously deceptive when we start implementing change under the guise of new labels. During the 30's, innovators talked about the unit, the whole child, social consciouness, the special interests curriculum, and the development of problem-solving skills. In the 40's, they championed group dynamics, higher standards, democracy, fundamental education, and the advent of critical thinking skills. As the 50's progressed, in came the new math, the new social studies, the new physics, and the reflective thinking skills. By the 60's, the jargon reflected such terms as T-Groups, relevance, feeling, meaning, and the process of developing inquiry skills. These labeling games that educators play could collectively be referred to as "dictionary innovations." Thus, any rational study of the future will, of necessity, have

to take into account the impacts of this history of innovation, and relate such impacts to the permanency of change in education.

Change Agents. The concept of a change agent is inextricably interwoven with the concepts of innovation and educational futurism. Originally, a change agent was someone who came in from the outside to help an organization improve itself. As a descriptive term it has a wide currency. To some educators, the term has poor connotations because it implies a know-it-all type expert who pushes change for the sake of change. To others, however, it refers to a person who facilitates thinking processes . . . who forces others to examine what they are about, in order to be sure that the change being contemplated is real change and not just neurotic upheaval. Such a person thus forces to the surface questions as, "Will the change add a necessary dimension to our program? Will it allow us to reach the children that we have been missing? Will it help us to meet the goals we are establishing? Will it be a change that will just give us the appearance of keeping up with the times?" Whatever the question, whatever the type, change agents do have consequences for the future of education, and our understanding of their roles is helpful to our understanding of the future of innovations in the schools.

One role assumed by a change agent is that of an advocate. In this role, the advocate has the task of promoting a particular program -- team teaching, the new math, individually prescribed instruction, open schools, learning resource centers. More often than not, this type of change agent is usually a member of the staff who has been given formal authority to supervise the installation of a new program in which he or she has a personal and keen interest. Regrettably, in terms of producing widespread or enduring change, the advocate approach leaves something to be desired. First, because the advocate tends to specialize in a particular and highly specific area, there is a

tendency to neglect the demonstration of the innovation's suitability to the curriculum as a whole. Second, there is a tendency to exaggerate the claims of the effectiveness of the innovation, thus arousing staff skepticism. Third, the advocate fails to recognize the attitudinal and organizational barriers to change. Too often the defense of the innovation will rest on the rational appeal of some research evidence or philosophy of education, while paying very little attention to the nonrational incentives for change or to bureacratic barriers to innovation. Last, because of the highly specific nature of the innovation or the limited circumference of skills in the change agent himself or herself, advocates are seldom concerned with the institutionalization or the continued maintenance of the change ushered in by the innovation.

Another type of role that change agents can assume is that of an information specialist. This is a person who transmits information in the manner of research reports, state-of-the-art summaries, packages of how-to-do-it materials, curriculum guides, and proposal writing. Unlike the advocate, this type of change agent is more user-oriented in the sense that he or she waits until his or her assistance is required to help solve a particular problem or need. Another difference lies in the fact that, rather than promoting a particular practice or approach, he or she simply affords the client access to an enormous reservoir of alternative resources. One possible criticism of this type of change agent role, however, is that only the most up-to-date and energetic practitioners would have the initiative to seek out information on available resources and have the necessary wherewithal for applying such information to their particular situation.

The third type of change agent role has sometimes been called the "OD" or organizational development trainer. This grew out of the T-Group and sensitivity training sessions of the 60's whose aim was to increase an individual's

receptiveness to new ideas, to generate self-awareness and interpersonal trust. OD trainers built onto this framework the skills necessary to assume organizational roles and especially those requiring teamwork. It became more and more apparent to OD trainers that innovations within our schools were more a function of the climate of the organization than a function of the efforts of isolated key innovators. The assumption at work here is that the acceptance of an innovation and its subsequent permanency within the scheme of things is much more dependent on systems of people than on individual people.

The objective of OD training within education is to create within the teaching and administrative staff the abilities to become active listeners, to renew oneself, and to develop flexible approaches to problem solving. In general, the OD person helps to develop a sequence of (1) clarifying the problem area or identifying the end states that are desirable, (2) evaluating the forces acting to keep problems from moving forward towards solutions, (3) setting priorities on the forces being increased or decreased, (4) making action plans, and (5) evaluating the effects of the action taken. Thus, the OD change agent sets out to unfreeze a group of people so that new ideas, innovational practices, and new modes of staff relationships can emerge. In so doing, a generalized capacity for change is being created. Openness to change is the goal, rather than the adaptation of a specific innovation.

Before various alternative futures for education can be effectively mapped out, it would be well for educational administrators to come to recognize the similarities, differences, and strengths that change agents and the schools can employ in both initiating change and then sustaining such change.

The Endurance of Innovations. Much of what has been disguised as innovation has the philosophical and psychological foundations of sand.

Instead of identifying the means of improving the instructional program, and with it the betterment of the learning process, concentrated efforts go in the directions of hardware and improving the efficiency of an operation. Instructional improvement under such misnomers of efficiency and technology has not been able to satisfy the variables of learning. Evidence that a student has performed at a certain level of proficiency indicates neither his or her desire to maintain that skill nor the internalization of the learning process. Expediency thus has been an errant determinant of change in education, and has tended to retard the development of creativity, intellectual curiosity, and human value systems in the minds of both teachers and students.

Aside from such shortcomings that may originate from the change agents and from the schools' desires for expediency, there exists a set of variables, somewhat external to the schools themselves, that casts still further light onto the non-permanence of the changes wrought by innovation. These additional variables help to further explain why frontline innovative schools of the past decade are having difficulties sustaining their leadership thrust today, and why the market on new ideas has seemingly collapsed through disillusionment by the consumer public.

The first category of variables is concerned with the issues of training and re-training educational personnel. In-service sessions have generally proven ineffective as a means for bringing about changes in education because there is usually little transfer from the workshop to the classroom. A related deficiency also is seen in the pre-service training experience that prospective teachers and administrators are receiving in graduate schools. Because training personnel usually assume that education includes the subjects that they were trained to teach and that administration includes the time-tested patterns that they, as administrators, learned to manage, they are compelled to

recognize the tendency of a trend to perpetuate obsolescence. These deficiencies in both pre-service and in-service education have contributed, in their own ways, to the notable demise of innovation in the schools. The graduates who have had such experiences have been characterized as accepting the publicly heralded revisions in the schools without ever understanding why and without ever having any coherent future game plan within which to integrate such change. Thus, innovations came to be looked upon by professionals and the public alike as educational bandwagons that rolled speedily by, peaked quickly, and were even more quickly replaced with the next new fad.

A second category of variables concerns itself with the issue of educational leadership. Too often, the charisma of the administrator does not linger on after his or her departure from the scene. Inevitably, the innovative administrator is always replaced by a moderate who brings in a semblance of stability and a return to the status quo. Although on the surface the profession and the public alike make a hue and cry for change, deep-seated resentment and fear are directed at the innovative leader who causes friction with the traditionalists. We are again compelled to recognize another sobering fact of futurism: namely, that the life span of an educational innovation is dated from the beginning.

The final set of variables contributing to the passing nature of innovational changes can be found within the climate of the schools and the community. Creativity can thrive only in a wholesome climate, where everyone feels good about their relationships, where teachers and parents have confidence in their school's management, and where students and staff have an abiding sense of personal satisfaction. People simply will not produce and will not change when surrounded by a negatively charged atmosphere where complacency, frustration, alienation, and public hostility abound. A positive school

climate is a result of the interactions occurring between instructional programs and extracurricular programs, between administrators and teachers, and between parents and school. In bringing together a variety of elements and processes, a positive climate permits the school to be seen as a good place for staff and students to be spending a substantial portion of their time together.

The climate of the school and the community reflects, as well as influences, the mental sets and attitudes which are so essential for the acceptance of change. School administrators could more effectively release the creative energies of their staffs by changing their approaches to problems than by trying to solve problems. As television commentator Eric Sevareid so aptly put it, "A chief cause of problems can be found in their solutions." The approaches that administrators are willing to adopt in dealing with problems of change and innovation could well go far in (a) lessening the staff's fear of the consequences of risk taking, (b) lesssening the staff's anxieties about their ability to perform in new ways under new conditions, and (c) making inroads on those convictions arising from the certainty that familiar routines have a certain air of correctness about them.

Administrators also could make provisions for adopting "stock market" attitudes with both the staff and, more importantly, the community. The experiences of innovative schools are not unlike the February and November stock market periods. The introduction of an innovation in the schools is usually accompanied by a general rise of expectation, as is true of every improvement in the economy. Yet after such a rise peaks, a slump period ensues where the bottom seemingly falls out. This is when the morale and climate hit a new low, and this is when we witness -- due to panic and frustration -- the temptation to abandon the innovation as a chancy departure. As the rise and fall on the

market is a barometer of business attitudes, so too must the attitudes of the educational community be expected to vacillate with respect to the continued maintenance of an innovation. By assuming the perspective that administrative approaches to the problem are more important than the problem itself, change is given the chance to be successful. And when change is successful, all can look back and call it growth.

In summary, the answer to the question -- "Why do innovations with so much promise fail?" -- can be couched partially in terms of our understanding of the roles that change agents play in the process of adopting change, and additionally, in the more pervasive influence that teacher training programs, administrative leadership styles, and attitudinal climates have on the acceptability and longevity of changed ways of doing things.

Although it has been through the vehicle of innovations that educators have attempted to solve educational ills, such innovations by themselves have not been able to influence learning to any appreciable or lasting extent. A four-year study recently completed by the Rand Corporation (Rand Corporation Report, 1978) reinforces this conclusion by stating that federally funded school innovations have a short life after the seed money stops, thus bringing into question the whole concept of using seed money as an agent of change. As a consequence, there is a growing realization that some of our national policy makers in education have tended to overestimate the influence of federal incentives on local practice. Change in the schools is thus being perceived as more a function of local choices than of federal incentive. Other conclusions reported were . . .

* No group of existing educational treatments has been found that consistently leads to improved student outcomes of learning.

* Projects that were initially successful have trouble maintaining that success over a number of years.

* Successful projects are not disseminated automatically or easily; and their replicability in other schools and classrooms usually falls far short of their performance in the original sites.

* Most new products and processes simply do not stay around long enough to prove themselves.

* The sponsors of educational innovations tend to be overly optimistic about how much time it takes for the product to produce change.

* Future awarding of federal funds for purposes of innovation should be based on a school's ability to sustain the very innovation it proposes.

At any rate, innovations work well only for teachers and administrators who believe in their efficacy and know how to use them for specifc purposes. Every school will have to come to the understanding that sooner or later, it will not be able to buy its way to excellence through innovative gimmickry, because there simply are no educational quick fixes. Innovations are not a cure for poor teachers and weak administrators, since those who do poorly with familiar tools can be expected to do a worse job with strange new ones. The cry of the traditionalists with their back-to-the-basics banners offers no better an answer for incompetent instruction than does unbridled innovation. Neither approach should be unquestioningly embraced or dismissed out of hand, because, in themselves, they are simply popular trends and popularity does not solve anything of lasting value.

Empirical Considerations. One wonders why so many research studies have concluded that innovations in education either did not work or did not even give the indication of being an improvement over traditional methods and approaches. While admittedly this appears to be a massive indictment against

the changes that we have allowed to occur in our schools, let us probe beneath the surface for some plausible explanations.

First, most large scale evaluations have made the assumption that the innovation being examined is actually being used in the classroom simply because the school's administration has said it was being used. When the evaluators locate another school where the innovation is supposedly not being used at all, they fail to find any differences in student performance. Therefore, on the basis of such empirical evidence, the recommendation is made to discard the innovation as an unsound departure from tradition.

Several things are wrong here. For one, there is a large discrepancy between what the principal thinks is going on in the classroom and what the teacher knows is going on in there. A second mistake is to assume that the control school is not acquainted with the innovation in question. In one study, an evaluation was made of the effect of individualized instruction. About half-way through the study, it was discovered that 20% of the teachers in the experimental group were not individualizing at all, and that 49% of the control group teachers were, in effect, using this treatment, although under a different name, simply because they had innovated and picked up the concept on their own.

Second, researchers, and sometimes teachers themselves, have a tendency to overexpect student outcomes deriving from innovations. This error is compounded when we consider that so much of the learning taking place in our traditional programs cannot even be adequately assessed due to lack of refinement in our measuring tools.

Third, the teacher's adoption of an innovation is not the result of a single isolated decision, but rather the result of an unfolding process. All teachers have to adjust individually to a new way of doing their jobs. They

will then proceed at different speeds through several stages involving (a) an initial period of orientation, (b) a middle-ground level where they become thoroughly versed in the use of an innovation, and (c) the level where they can refine the innovation to the point of increasing its impact on the students through their ability to integrate the innovation within the larger scheme of the total curriculum. The effectiveness of a research design will, in part then, be functional due to its ability to account for such differences in teachers' abilities to manage instructional innovations.

Fourth, any innovation to a program, unless it is terribly wrong to begin with, deserves at least a few years trial. Teachers usually spend a year in setting up something, and a second year in refining it. Teachers then feel that it would be exhilirating to be able to teach it again for a third year -- all the while building on the additions, deletions, and revisions dictated by experience -- and perhaps even be given a chance to reflect a little upon it. While this may be an optimistic expectation, it rarely happens this way. The hard work and the motivation that go with this process are usually swept out in order to make way for some new passing fancy. I leave it to the Petronius Principle to explain this method for creating the illusion of progress while, in reality, creating nothing but confusion, inefficiency, and demoralization. Petronius, a Roman stateman of the First Century, came to the realization that even though the people had all trained hard, it seemed that every time they began to form up into teams, they would begin to reorganize again! Unfortunately, the bulk of historical evidence seems to weigh heavily on his side.

In summary, learning is a complex and sequential process, and any attempt to facilitate it through an innovation must be given the opportunity for time testing and the accumulation of some longitudinal data. Our very impatience with waiting for results and evidence of improvement has all too often caused

us to overlook this simple fact . . . that change must be given time to show its effect. Additionally, we would also do well to interpret the results of our research findings by asking: (a) Has something really happened? (b) Has it been observed often enough to be credible? (c) Was the improvement really a result of the intervention, or was it due to some other influence? (d) Aside from statistical significance, was the change educationally important? (e) Can the change that brought about the improvement actually be duplicated by other teachers in other schools? With respect to this last question, the National Institute of Education has reluctantly concluded in a recent review of the research projects it has funded that good ideas just do not seem to be transferable. This fact remains, as one of today's more puzzling mysteries of education -- why are good programs seemingly incapable of being transferred from one school to another?

Statement. No discussion of the learning process and the improvement an innovation attempts to make on it can be completed without proper attention being granted to two mutually related and significant areas of concern. The first area of concern can be identified as the product aspect of the curriculum, or in today's jargon . . . the basics. With innovations continuing to expand at such alarming rates, it is the challenge for tomorrow's schools to hold onto the basics while still providing an education that goes substantially beyond the limited compass of the three R's.

The second area of concern deals more with the interactive or process nature of the curriculum. Irrespective of how basic or innovative the curriculum may be, no amount of learning is going to take place unless the student is willing to assume a responsibility for what happens in the classroom. Over and above this responsibility, however, is the still larger dimension that the teacher's role plays in encouraging such a willingness on the student's part. In the words of Ralph Tyler (Tyler and Williams, 1973), "the great revolution in education will not come through innovation or technology, although both may greatly assist it. The real revolution will come when we change the role of the teacher into being a manager or facilitator of learning, and change the role of the student from that of responding to questions to that of asking questions, thereby placing them in charge of their own learning."

High schools, communities, and policy makers of today would do well to examine the issues implicit in these two areas of concern as they go about the task of mapping out alternative futures for secondary education.

The Basics. Appearing on a recent telecast of Face the Nation, Rear Admiral Hyman Rickover excoriated the schools for turning out huge numbers of functional illiterates. His voice simply added to the crescendo of the times that the schools drop their frills and get back to the basics. Let us pause to consider, however, "Will the basics supply the final answer?" After students master the basics, educators will be confronted with the question, "Where do we go from here?" Without having to create a scenario for the future in order to answer such a question, I submit for your consideration the comments of a Russian teenager in responding to the criticisms leveled at her generation. The citizens of the Soviet Union have become increasingly critical of today's teenagers and of the schools' failure to develop, not an understanding of basics, but a sense of values, life goals, and constructive citizenry in its graduates. These comments were written by a girl named Sasha to the editor of a newspaper in Leningrad:

> I might be seen in a doorway, not altogether sober, with a friend who is almost 20, and you grown-ups will immediately decide that I am a good-for-nothing. But, when you were 15, had you read all of Tolstoi, Chekhov, Dostoevsky and Balzac? I have. Can you chug-a-lug a whole bottle? I can. Do you have patents or published articles on the theory of literature? I do. You grown-ups just do not know how to combine everything!

So, I ask you again, will the basics be our final answer?

Perhaps what the adult generation of American citizens is looking for today when they demand a return to the basics is actually a return to a simpler society. This nostalgia of our adulthood is born more of our own frustrations and bewilderment than of our concerns for the needs of our children. Every time society undergoes a serious dislocation . . . such as the frenzy that Sputnik caused in the 50's, or the turmoil that the civil rights movement

caused in the 60's . . . the schools become subject to reexamination and increased scrutiny. Under the heat of such social pressure, much objectivity is lost, and the tendency of accusing the schools of being utter failures is constantly present. Thus, the banner of back-to-the-basics has become the code word for "Let's cut the school budget," and "Let's have law and order in the schools."

While the former statement is an outcry against innovations, the latter statement is really a cover-up for "Let's have more obedient children," "Let's have quiet in the classroom," and "Let's not have the kids move around too much or ask too many questions." It is decidedly not in the interests of a planned and rational futurism in education to become reactionary to this criticism, or to offer counter-slogans such as "We never left the basics," or "We are moving forward with the basics." Instead, we must forge new partnerships between professionals and public alike, in order to set the schools back onto their proper course for the next decade.

Our educators and communities must come to recognize that while the survival or coping skills may be essential for today's students, they would not be adequate for tomorrow's students. While the capacity for thinking and problem-solving must be supported as basic, such capacity is certainly no more basic than self-esteem and a positive self-image. Let us further recognize that, once upon a time, the basics of American education served well the purpose of a simple and static society. In today's society, however, there is a need for the spiraling basics that will permit our children to cope with the dynamics and changes of our culture. The basics are as changing as the maps of the world . . . they cannot be considered as constant.

Policy formulation is desperately needed to guide a redefinition of the goals of the schools, to remap the curriculum, and to foster the development

of personal and social goals in the lives of our students. We would be remiss, however, to expect that such policies come as pontifical pronouncements of the government, or industry, or even from the heads of schools and/or from people who give talks on futurism. Futures policy formulation has better sources than that to start with . . . one such being at the local level of the school and the community. By thus encouraging the formulation of wise policies that begin at the local level, the changes and innovations that they may eventually spawn will have a better chance for withstanding the test of time and for acquiring a better sense of permanency.

Some Tactical Concerns. There exist a number of tactical areas of concern that could provide us with a base upon which to develop strategies for the formulation of future policy issues in education.

* *There is a basic process that parents themselves must return to in the homes.*

To some people, it is not the schools that are failing, it is the family. Today there seem to be much indecision and confusion concerning the relationship of the child to the parent, and then the relationship of both to the school. We have looked for teachers to assume a role more befitting the parents -- highly individualized attention, concern for the whole student, opportunities for informal interactions. On the other hand, however, we have expected parents to become more like teachers -- more knowledgeable, more program oriented, more objective. In actuality, it is the purpose of neither group to usurp the role of the other, but rather to draw closer together in order to better complement each other. Aside from the obvious need to continue the advances we are currently making in early childhood education, there exists an even greater need for parents to become involved in an advisory capacity

with the schools in the areas of career education and values education. It is precisely in this latter area of values learning that we can explode the myth of the sufficiency of the static and basic three R's. Our educational futures must aggressively address themselves to the spiraling basics where the character-rooted passions so necessary for the survival of our democracy are found -- truth, beauty, justice, wisdom, and faith. In the words of former U.N. Secretary Dag Hammarksjold, we want children to be not only competent, but also compassionate, kind, true, and humble. It is only with such character that they can become the firmer, stronger, and wiser leaders of tomorrow.

* *There is a need for administrators to call a moratorium on curriculum changes and innovations.*

Expansions and additions to the curriculum will not work unless teachers are involved in the planning and implementation process. It is not the changes that make a difference, but the teachers into whose care they are entrusted. The talent and contribution that involved teachers can bring to the learning process pays off in the positive attitude and clear perceptions they develop for such changes.

* *There is a need to introduce some "brain-compatible" learning and to avoid the assumption that because something is taught, it will be learned.*

Learning is basically a brain activity. Each brain is highly individual, intensely aggressive, and will seek out and demand only what is needs next to make sense of the surrounding reality that it perceives. The educational inference at work here is that group instruction, taken by itself, is brain-incompatible. Current medical research no longer portrays the brain as being a stimulus-response mechanism. Instead, it is characterized as being elaborately gated. It will admit only those inputs it decides to admit and does so

in its own individual way. What was admitted, therefore, may be greatly different from what was sent into it.

Current research also indicates that the neocortex, which is five-sixths of the brain's gray matter, does not function well under pressure or threats. In such an environment, it goes into a downward shifting of gears. Thus, when students see classroom activities as threatening, the learning that should occur in the neocortex becomes inhibited.

Another area in which current knowledge of the brain can be put to good use in educational planning is educational technology. That term, as generally understood, includes not only the learning machines employing programmed instruction and CAI programs, but also the design of new curriculum materials. The brain is a computer of incredible power and subtlety, being far more analog than digital. It works not by precision, but rather by decisions based on probability. Educators have been traditionally obsessed with step-by-step sequences in the presentation of information. Yet such sequential logic has little applicability to the processes of the human brain. The brain functions by grouping large wholes or programs of related information into structures. It is when these structures become arranged into hierarchies that the brain is given its incredible reach and subtlety. Educational policy-makers of the future would do well to examine more closely this heretofore overlooked area of medical research. Good new policy development does not tell us what to do tomorrow; it simply directs our efforts into higher and more intensive levels of applied inquiry.

* *There is a need for educators to avoid quick and partial responses for change.*

The formulation of effective educational policies should never be colored by either over-reaction or under-reaction to criticisms or demands for change.

Sloganeering, adversary relationships, and shouting matches do not promote the cause of education. The advocates for change must be listened to with genuine interest. Their input must be incorporated along with the input of professionals and consumers alike into the policy formulation process. It will be only from the measured tempo of such a broad-based approach that educators can begin establishing a unity among the diversity of opinions found currently characterizing the family, the schools, and the community. In this manner effective starting points for innovative programs in the future will be found.

* *There is a need for the schools to underwrite the community's intention to serve each individual child.*

Unless the child becomes the centering focus of education's resources and planning for the future, policy formulation becomes a futile exercise. It is not a radical concept for the schools to focus on the student and to assess strengths and weaknesses in order to develop appropriate program alternatives. What is radical, however, and very necessary for the success of tomorrow's education, is the need for the schools to teach students how to be students. Not only must students learn about their rights and responsibilities, but they also must become aware of their own individual learning styles. Once students are taught to recognize their own strengths, they can be taught to overcome their own weaknesses. Thus, students need to learn how to learn, and to do this they must change from being passive recipients of a teacher's instruction to being active producers of their own self-learning.

The Interactive Process of Teacher and Student. The learning by teaching concept builds upon the centuries-old experience that the first student in every classroom is the teacher. If this is true, any learning

that takes place must be done by the student. The role of all others -- the teacher and the resources of educational technology -- becomes relegated to the level of facilitating the learning process. This observation is corroborated by the fact that in the area of human services, the consumer is the producer. For example, the patient in a mental health program is not only the consumer of the service, but is also the achiever of the service's goal, namely, his or her own mental health. The doctor, as a service provider, cannot produce the patient's improved health the way a factory worker produces a machine. Only the patient, as a recipient of the service, can do that. Similarly, students are not only the consumers of teaching but are also the producers of their own learning. The more actively engaged a student becomes in the process, the more effective a producer of learning will he or she become.

The fact that we are placing so much responsibility for learning on the shoulders of the student should in no way lessen the even weightier responsibility that rests on the shoulders of the teacher. Let us take a closer look at this interaction between teacher and learner and come to recognize it as the real locus of change in the classroom. It would be beneficial to couch our discussion in terms of a few select characteristics of teachers. These characteristics represent an overlooked dimension in the minds of educational policy planners when they are contemplating future change and innovation in the schools.

* *Teacher enthusiasm is a variable directly related to student achievement.*

Students who have graduated from our secondary schools and who have talked fondly of former teachers ironically remember less of what was taught and more of the fact that it was taught with interest and enthusiasm. Such a

teacher characteristic greatly lessens student anxiety, fosters their creative thinking abilities, increases their ability for recall, and greatly improves their attitudes. Students are always observing their teachers. They attend to every move the teacher makes . . . learning to detect even the slightest hint of happiness or unhappiness, learning when the teacher can be joked with or not, learning whether the teacher likes them or not. Thus, students can and do form clear perceptions of their teachers.

It takes years to learn how to teach well, and even then, one never learns once and for all. Each group of students has a different set of needs and presents a different set of challenges. We learn teaching by practicing it and by finding models. Teaching, being no simple matter, is part craft, part art, part technique, and part diplomacy. For most teachers, the effort it takes to excel makes good sense because they get the opportunity to see young people grow, knowing that they are having a positive and caring influence on their students' lives. Teaching is a way of sharing power by convincing others to value what you value, and to explore the world with you and through you. Unfortunately, teaching has become, for some, a matter of temporary convenience, of taking a job that seems respectable but not too demanding -- of really marking time while figuring out what one really wants to do.

* *Teachers who are unsure of themselves as adults cover their sense of powerlessness with the rhetoric of equality.*

A number of years ago, I was responsible for the training of teachers coming into deaf education. There were a number of questions that I posed to to them in order to help them clarify their motives and focus on the type of teaching situation that would make good sense for each of them. The questions were penetrating and are just as applicable for the teacher already ensconced

within today's classroom. First, "What reason do you give yourself for wanting to teach? Is there any pleasure, knowledge, or satisfaction to be gained?" Second, "Why do you want to spend so much time with young people? Are you afraid of your own peers, or do you really feel more comfortable with students?" Finally, "What do you want from your students? Do you want them to do well on tests . . . to learn a subject matter? Do you want them to like each other or to like you? In fact, do you consider yourself to be one of the kids? Is there any real difference in your mind between yourself and your students?"

It is unnerving to find today, probably as a residue of the social disruption of the 60's, that there are still teachers who tell their students that they are equals. This is exemplified in many ways, one of which is for students to enter into that familiarity of calling teachers by their first names. What is even more astonishing, however, is the fact that these very same teachers are so surprised when their students show them no respect. If the younger generation expects to learn anything from the older generation in order to improve themselves, the teacher who pretends to be an equal of the student is not only a hypocrite, but also a disappointment in the student's eyes. This does not mean that the teacher cannot learn with the students, or even from the students. It does not mean that the teacher must force the students into learning, or even be the source of all authority. It simply means that teachers -- with their skills, experiences, and mastery of a subject matter -- are different from their students, and are responsible for guiding their students into assuming increasingly responsible roles in the mastery of their own lives and learning.

* *Leadership is the ability to get people to do willingly what they have the ability to do, but do not do spontaneously on their own.*

There is nothing inherently undemocratic in requiring students to do things which are demonstrably beneficial to them. This includes expecting drill work, memorization, and homework to supplement the valuable time spent in the classroom. Students must be taught to accept a full measure of responsibility for their own learning. Students must be taught to stop seeking excuses and blaming others or their environment for their failure to learn. We are witnessing in today's classroom a great "over-teach." This takes place in the form of repeated and excessive explanations by the teacher. From very early on in the educational process, students have been led to expect the teacher repeatedly to explain everything until they "get it," usually with little effort on their own. The "I don't get it" syndrome has become a convenient student mechanism that throws responsibility back to the teacher, thereby absolving the student of any responsibility for his or her own learning. Let us never for one moment confuse "I don't get it" with "I haven't really tried to get it!"

No teacher, functioning as a leader in the classroom, can afford to make his or her students a group of educational dependents. Leadership, if it is to be effective, involves obtaining a positive response from others and using that response to bring about a desired attitude change. Leadership in the classroom additionally implies that teachers have a special effect on students which commands their respect, their admiration, and their affection, thereby encouraging them to follow their examples. Leadership implies a certain amount of assertiveness in the sense that the leader projects some part of his

or her personality on the will of others. Good teachers are good leaders when they remain open to change and open to new ways of doing things.

* *The successful teacher believes, organizes, listens, and leads.*

While there are many factors contributing to successful teaching, some stand out more markedly than others. First, successful teachers believe in their students and show by their behavior that they have no real way for estimating the potential of growth that each student can attain. Rather than showing sentimental or condescending behaviors, they show healthy respect for students as people, and constantly reinforce their students by showing them that nothing is beyond them. These teachers do not say "This is good work for these kids," or "This is all you can expect of them." Such thinking implies that the teacher can know the maximum that can be expected of the students and that they pretend to know the point beyond which such students cannot grow.

Second, successful teachers are able to make management decisions and establish themselves as the organizational head of the classroom. Students are very quick to pick up the ground rules by which the class operates and they come to know what they are about and what their peers and teachers are about.

Third, successful teachers are practitioners of the art of active listening. They remember what their students say and they use what their students say in combining and extending their thoughts.

Finally, successful teachers are true leaders when they continuously demonstrate that they enthusiastically value the material being learned and that they regard it as being positive and useful. The tendency of students

to learn what is of great importance to the teacher is a more powerful incentive to learning than the influence of all their previous experiences.

In summary, I resubmit the question -- "Why are you a teacher?" Teaching is a difficult craft to master. It takes time, effort, intelligence, and feeling. It makes one the proud holder of the key to a student's future . . . and through that student the future of society. Carry that key gingerly, turn that key gently, and polish that key frequently. If teacher meetings, curriculum writing, and career goals have become more important than the students with whom you are working, perhaps it is time to rethink your role as a teacher. Perhaps it is time to do something else and return when you are fresh and capable of centering your work once again on your students.

Summary. Enlightened democracy requires that all citizens be involved in forecasting possible, probable, and alternative futures and in determining which of these futures are preferrable. To that end, over 14 states have established commissions or tomorrow-groups to begin such comprehensive future planning for all aspects of society. Think tanks like the Hudson Institute, the Institute for the Future, the Harvard Program on Technology and Society, Europe 2000, Mankind 2000, and the World Future Society have made us conscious of the fact that if there is a prospect of future shocks, dealing with it now may transform it into something less intimidating. The implementation of futures courses in the high school curriculum is itself a harbinger of what is coming in education. There are presently about 200 secondary schools throughout the nation offering such "Century XXI" type courses. From the point of view of the basics, the goal of these courses is to introduce students to the creative thinking techniques of prediction and to demonstrate how the concepts of change agents operate on the lives of the individual and

the family. From the perspective of the spiraling basics, the ostensible goal is to help students clarify their values so that they will be able to make intelligent decisions about future developments in science, society, and their personal lives.

Another futures-related innovation in our secondary schools is concerned with the notion of getting students to realize the meaning of scarcity. Developments within the present decade have forced us to face up to the political and social implications of the scarcity of our resources and the fragility of our environment. The fact that our schools already have begun developing a moral and intellectual sensitivity to problems of such complexity bodes well for the future of education. However, the schools must continue over the next decade to help students repair two broken connections that have contributed today to our sense of isolation and vulnerability. One is the connection with our collective past which will haunt us if we ignore it. The other is our connection with the rest of nature with which we must find new ways to coexist.

SOME UNMET NEEDS

In Retrospect. In looking back at the educational policy themes of the past decade or so, it appears that many of them were reactions to pressures occurring outside the schools themselves. Although many of these societal pressures were predictable, they were not at the time incorporated within the mainstream of any educational futures planning. There was a reluctance on the part of the policy makers in education to take into account the broad sweep of the economy and society as a whole by simply adhering to the safer and more parochial view of the school's perspective. If this is a true characteristic of general education, it is an even closer portrayal of deaf education. It is perhaps in this parochialism of perspective that deaf education receives it most damning indictment. The myopia and/or near absence of a futures orientation by the policy formulators in the field of deaf education by far eclipses the criticisms of Kohl -- deaf education has not been a failure over the last 100 years -- and the Babbidge Report -- deaf education has not been quite as successful as it should have been (Kohl, 1966). Too often professionals in the education of deaf children have been characterized as setting themselves apart, not only from the mainstream of general trends in both society and regular education, but also from much of the foment and movement in special education itself. Hopefully, with the emergence of a new century -- but a score of years away -- a more serious attempt will be made by deaf educators for futures planning and policy formulation.

In order to underscore the importance of having both regular education and deaf education evolve into an era of rational futurism punctuated with options and alternative directions for change, we would do well to consider how this need was left unmet in the past. During the 50's, there occurred

three major events that sent the schools into a tailspin. One set of shocks evolved from the Supreme Court's decision affirming education to be a basic human right, essential for life opportunity, liberty, and the pursuit of happiness. The decision legitimatized the, by-then, growing body of social science research which showed that racially segregated school systems cannot be equal. Parenthetically, it should be noted that it is quite beyond the point to argue that such research has recently been proven faulty, not only by a Rand Corporation study (Rand Corporation, 1978), but also by the very sociologist whose research had originally launched the bussing movement -- Dr. James Coleman (Coleman, 1978). What we do have at issue here, however, is the fact that despite the mounting evidence occurring at the time, nothing was done to prepare the schools for the inevitable consequence of the Court's initial ruling.

The fact that the schools are still reeling today -- 25 years later -- gives ample testimony to the presence of a future shock that was unplanned and unanticipated. If policy formulation was remiss in the public schools, it was even more remiss in schools for the deaf. It has just been within the last year or two that some schools for the deaf have begun redrawing their building and program plans in order to accommodate the Supreme Court decision of the 50's. The haste with which this belated compliance with change has occurred has not been without its price in terms of disrupting the educational process of the students involved. Such disruptions would not have happened if there had been an element of rational futurism characterizing the educational policy formulations of the schools and communities affected.

The second set of shocks resulted from the launching of the Russian space probe -- Sputnik. Almost overnight, the heads of school study groups, foundations, industry, and government agencies appeared in the news media

criticizing education for turning out functional illiterates in the physical sciences. The reactionary stance that the schools adopted resulted in a lop-sided curriculum and the inevitable flooding of the labor market with overly-qualified graduates, due to cut-backs in the aerospace and related industries. Recent Department of Labor projections have forecasted a 20% increase in the general labor force by 1980. A resounding 80% of these new jobs will not require college or post-graduate training. Nevertheless, in spite of the market's inability to absorb these over-qualified graduates, the rush for degrees continues and does so with the blessings of the home and our high school counseling departments. It has been predicted that by 1980, the number of bachelor's degrees will increase by 50%; master's degrees by 100%; and doctorate degrees by 115%.

Our secondary schools have an obligation to place a check on the exalted values that our middle-class society has been attaching to higher degrees and high status jobs. The schools must exert a leadership role in educating the public so that no stigma is to be attached to jobs requiring only a high school diploma and some specialized advanced training. It is painfully evident that unless educational policies are formulated to alert both the schools and society of the error inherent in such misplaced values, the present trend will prove detrimental to tomorrow's economy. It will cause imbalances in the distribution of the labor force, much social displacement, and even greater personal unhappiness.

In the field of deaf education, we must stand to be criticized. Due to either limited or non-existent forecasting of future trends in the economy, and with it the necessary alterations in education, our secondary and post-secondary schools must accept a dominant share of responsibility for the bleak picture our former students are painting in the labor markets of the land.

Schein, in a recently-published study (Schein, 1978), reported that labor force participation by deaf people has dropped from a 66% figure in 1972 to a 61% figure in 1977. Working-age deaf, male adults jumped from a 5% unemployment to a 10% figure during this same period. Even more disheartening was the fact that in 1971 the wages for deaf adults were $2,000 lower than for the general hearing population. This gap had doubled by 1976 with the result being that deaf wage earners were, on the average, getting only $7,000 compared to the $11,000 of the general population.

It might also be significant to point out that as a result of Sputnik, researchers in linguistics at M.I.T. conceived of the basis for transformational grammar. It was originally hoped that this model would permit the design of computer programs in language learning to generally upgrade the literacy performance of the nation's school children. It has been only recently, however, that any concerted effort has been made to apply this innovation to the needs of deaf children.

The third set of shocks occurring in the 50's, and spilling over into the 60's, was the post-war "baby boom." This predictable, yet unplanned, pressure was met by the unimpeded expansion of education's physical plant. The rapid rise in educational expeditures became easily justified and was even more easily affordable due to the healthy economy. However, should we not ask why schools are still being built today when the social trend has been toward increasingly smaller families? Has not society set as one of its goals an approach to zero population growth, due to forecasts of overpopulating an increasingly resource-scarce planet? It is to questions like these that policy makers must address themselves in order to avoid the future shocks of tomorrow.

The wrenching social discontinuities that quickly followed the 60's, despite their forewarnings, caught education totally by surprise. At first, educational issues that had traditionally been kept at the local level were thrust into the national political area . . . with the prevailing thinking being that the needs of the economy and society were resolvable through school reform . . . if sufficient resources had been committed. Thus, society's problems and education's reform were capable of being bought or simply legislated out of existence. The Great Society legislation of the early 60's poured billions of dollars into education. Pre-School and Head Start Programs, special schools -- among them NTID and MSSD -- were established, work-study programs and special junior college programs for the deaf were formed, and many other forward-thinking and innovative alternatives leaped to the forefront of the nation's consciousness with surprising speed. The national mood was high and the prospect of the future was glowing.

Then came the riots -- born both of the civil rights movement and feelings of the morality of the Vietnam War. Society's values changed. The rhetoric of equal rights was heralded and the schools were caught unprepared for the resultant challenge to authority. America was, by now, in a hurry. This was the time of instant gratification and instant solutions. The innovations that the schools had so recently adopted were never given a chance to mellow with age, because society demanded that the schools quickly straighten out the confusion of the younger generation. Educators were thus left holding the bag. The weakness of the schools in the area of futures policy research had contributed greatly to the public's disillusionment with the innovations of the 60's. As for the 70's, we are too close in time to appropriately comment on trends. Suffice it to say that we must begin immediately to formulate

policies that will guide tomorrow's schools before more future shocks make inroads on the viability of our educational system.

Legislation. The convergence of several social forces within the last 15 years has mandated the involvement of the Federal government in the schools. Federal aid to our 50 million school-age children last year amounted to some $6 billion. By earmarking most of these dollars for specific purposes, rather than allowing discretionary local use, the government forced the schools to attend to youngsters who had been traditionally ill-served. Thus, the question is not whether there should be a Federal role in education, but how well that role is being executed in meeting some unmet demands.

With the enactment of the Rehabilitation Act of 1973 and the Education for All Handicapped Act of 1975, a quiet revolution came about in influencing a change in America's social values and expressions of concern for its handicapped citizenry. The effect that these two pieces of legislation is having today is comparable to the effect that some other legislative landmarks had yesterday . . . (a) the Elementary and Secondary Education Act of 1965, (b) Title VI of the Civil Rights Act of 1964 ending discrimination by race, and (c) Title IX of the Educational Amendments of 1972 ending discrimination by sex.

As a public policy pronouncement, Section 504 of the Rehabilitation Act ends discrimination on the basis of handicap which, in effect, makes it a civil rights law. Offering a comparable guarantee of rights to handicapped children in our nation's schools is the Education for All Handicapped Act (P.L. 94-142). Both laws have mandated that handicapped citizens be brought into the mainstream of the American society. The impact that these laws will have in shaping the future of the nation's schools and marketplace is not, at present, clearly discernible. What is known is that (1) an evolutionary

process of development of regulations, interpretations, and court rulings will be played out over the next decade to determine the ultimate impact of these laws and (2) a new era has just begun for all children, not just those with handicaps, because the laws force to the surface a number of sound educational principles that have heretofore been neglected. What is seen as essential to the success of these laws is the formulation of policy positions by the schools . . . policies that chart alternatives for the future decision-making crises of tomorrow. It will be helpful to look at some provisions that these laws require in order to get a fix on some future directions.

An area within P.L. 94-142 needing such policy guidance is the procedural requirement of developing an individual educational plan (IEP) for each handicapped child. The schools are quickly being faced with such decisions as: (1) how do you appropriately gather and then assess the input that goes into the construction of an IEP? (2) how do you determine the functional characteristics of an IEP -- what it is and what it is supposed to achieve? and (3) how do you appropriately increase the parents' awareness of the instructional aspects of an IEP and thereby secure their active invovlement? Unless policies are formulated to guide the schools in such decision-making areas as these, the effectiveness of the IEP as a planning tool will be seriously challenged.

Another area of the law bearing the need for close examination is the critical issue of what constitutes a "least restrictive environment." Decision-making strategies are also called for here to assess the effects on (1) the teacher -- what happens to other children in the class when increased time and attention is being given to just a few, and (2) the handicapped child -- does such placement increase the child's academic and social performance?

A third area of concern is the issue of "due process." Unless policy platforms are developed quickly, the schools will find themselves ill-prepared to cope with the leverage sought by advocacy groups, new court rulings, and changing regulations. Finally, since P.L. 94-142 mandates the presence of adequately trained personnel in the classroom, the schools will have to assert their leadership by prevailing upon the teacher training institutions to provide appropriate pre-service and in-service experiences.

As to a set of comparable areas of the Rehabilitation Act requiring the need for policy formulation by schools, it will suffice to limit our discussion to the single most critical concept underlining the intent of Section 504 -- the issue of what constitutes a "reasonable accommodation." The law stipulates that a reasonable accommodation must be allowed for the known limitations of qualified handicapped applicants for programs or employment. The law does not, however, mandate that such an accommodation be provided if there is evidence that it would impose an undue hardship on the program's operation. The intent of the "reasonable accommodation" clause appears to emphasize program accessibility and employment restructuring. However, because there is so much room open for interpretation, future policies are needed to assist with such determinations as (1) defining the parameters that constitute a "reasonable accommodation;" (2) addressing the issue of who defines reasonableness, and for what social, educational, or political purposes; and (3) assessing the impact of various options for program modifications so that unnecessary disruptions in the delivery of services are avoided.

The mandate to our nation's schools is clear, not only in terms of these pieces of legislation, but also in terms of future-oriented policy formulations to meet the needs that tomorrow's decisions will be requiring. The present general language of the laws, their regulations, and scant legislative history

will provide little guidance on the resolution of such complex issues. This is a situation that can be turned to both our advantage and disadvantage. On the one hand, it allows and encourages much flexibility and diversity in administrative decision making. It keeps government control of education in check and it allows the solution to problems to become played out gradually over time. On the other hand, however, many schools already have begun fearing the consequences of judicial decisions based on post hoc determinations of the legal compliance with the regulations. Attendant to these fears of risk is the tendency to adhere to the semantics of specific legal requirements. What this seems to indicate is that paper changes rather than real changes will be the option selected by the schools' decision makers.

Future needs also will be evident over the next few years in evaluating the empirical effects of such legislation in the schools. Up to now, researchers have developed a head-in-the-sand type behavior when asked about the current movement in mainstreaming. They are quick to point to the studies of the past that produced mounds of inconclusive evidence about the issue of special class versus regular class placement. Immense problems of methodology plagued the older studies, perhaps because they were trying to deal with the wrong set of variables. The variables that these laws force us to examine today are more administrative and child-oriented. They bring into focus such questions as, "What happens in terms of time, cost, and managerial effectiveness when a handicapped child is integrated into the regular program? What happens to the child's achievement, attitudes, and degree of acceptance by both peers and self in the mainstreamed classroom?" Until we develop an empirically-based response to these questions, we will have no basis upon which to postulate future policy decisions related to this area. If we do not achieve this basis, the tyranny of the three L's -- leverage, laws, and

litigation -- will have pushed the demands for quality programming beyond the ability and resources of both the schools and the special education community.

Conclusion. Up until recent times, many of the educational and societal needs of hearing impaired children and adults could only be met through innovative legislation. Society was either unaware or unwilling to remove the attitudinal barriers that were blocking the full and uncompromised participation of its deaf citizens. Such barriers still remain. We have only to look at the recurrence of the terms "deaf and dumb" and "deaf-mute" in our daily press. These references to deaf people not only perpetuate the myths of defective intelligence and uncommunicability, but also serve to remind us that attitudes cannot be legislated out of existence. Undeniably, the need for both the deaf community and the schools to reckon with such forces in the future remains as an issue of paramount concern.

As for the future of legislation in the area of deafness, there continue to be many areas of unmet needs. In addition to the needs implied in this discussion -- especially the issue of mainstreaming -- a few others are worthy of mention. First, the Federal Highway Administration has established regulations that discriminate against people who "cannot perceive a forced whisper in the better ear at not less than five (5) feet." This anachronism, which is at variance with Sections 501 and 504 of the Rehabilitation Act, presumes that people who are deaf to such five (5) foot whispers are not physically qualified to participate in interstate commerce. In a related area, there also is a need for legislation to regulate the automobile insurance company industry which has a long history of discrimination against deaf drivers.

Second, P.L. 94-142 stipulates that states receiving Federal financial assistance must include all handicapped children from ages 3 to 21 in their

educational programs by 1980. However, if local practice or court orders exempt the 3-5 and 18-21 year old age groups, this mandate of the Federal law would not be binding. In practice, there are very few states which currently mandate education for these two age groups, and still fewer that mandate education from birth. In order to correct this imbalance and to capitalize on the deaf child's critical language-development of infancy and early childhood, amendments to the current law will have to be forthcoming before an equal accessibility for all students of all ages can be realized.

Third, the regulations for P.L. 94-142 specify that parents may request a due process hearing concerning the placement of their child from an impartial hearing officer who must not be an employee of the state or local education agency. At variance with this intent are several state regulations that require such an officer be a member of the state education agency. Similar instances of variance occur with respect to the issue of parental involvement. While the law encourages parental participation in the development of a child's educational plan, some states require only that the IEP be signed by the parents before implementation. In order to prevent an erosion of the precious parental rights, responsibilities, and authority declared by the law, further legislation and regulatory clarification will be necessary.

In summary, we must be quick to recognize that while some solutions may be found through legislation, the individual needs for deaf children and adults will still continue to be largely unmet. Legislation only grants the opportunity. It is up to the individual to recognize and to take advantage of such opportunity. The role that the school must play in assisting with this recognition is only too evident. They must begin moving out into the future with a better sense of alternatives and direc-

tions. They must continue to remind society and its solons of the problems and unmet needs of deafness, or the seeds of our future discontent will be sown in frustration. For this accomplishment to take place, schools must abandon the trend of the past where growth grew not so much by design as through the compulsions of circumstances. It remains, however, for the leaders to whom these schools are entrusted to be forever alert to the retardants of growth. Outside of the school, the retardant is the error of escalating expectations; from within the school, it is the failure to recognize that not all change is growth and not all movement is forward.

As we draw our discussion to a close, let us keep in mind the immensity of the business that remains unfinished and let us allow ourselves to become bothered and upset by it. Schools for the deaf will not succeed in their mission of preparing knowledgeable, well-adjusted, and compassionate young men and women for tomorrow unless they are blessed with leaders who know in what direction tomorrow lies. Several years ago, Dr. Robert Frisina gave a powerful turn to some words written by Thomas Wolfe that express this sentiment admirably, "If a deaf person has a talent and cannot use it, then we have failed. But if a deaf person has a talent and somehow learns to use the whole of it, then we have gloriously succeded with a triumph and satisfaction that few people have ever known."

And finally, let all of these thoughts of futurism, change, innovation, and legislation be summed up in the sayings of the wiseman:

> "You see things as they are and ask, "Why?'
> But I dream of things that never were and
> ask, "Why not?'"

REFERENCES

Bender, R. *The Conquest of Deafness*. Cleveland: The Case Western Reserve Press, 1970. P. 39.

Coleman, J. S. Interviewed by Lawrence Feinberg, "Desegregation Discounted: Scant Benefits Found for Black Pupils." *The Washington Post*, September 18, 1978.

Kohl, H. *Language and the Education of the Deaf*. New York: Center for Policy Studies in Urban Education, 1966.

Rand Corporation. *Federal Programs Supporting Educational Change: Volume VIII -- Implementing and Sustaining Innovations*. Rand Corporation Report R-1589/8-H.E.W., 1700 Main Street, Santa Monica, California 90406, 1978.

Rand Corporation. "Forced Busing and White Flight." *Time Magazine*, September 25, 1978, p. 78.

Sagan, C. *The Dragons of Eden*. New York: Random House, Inc., 1977.

Schein, J. "The Economic Status of Deaf Adults, 1972-1977." Unpublished report of the New York University School of Education, Deafness and Training Research Center, 1978.

Tyler, R. "Educational Evaluation in the Revolutionary Age." In K. Tyler and C. Williams (Eds.), *Educational Communication in a Revoluntionary Age*. Worthington, Ohio: C. A. Jones, Publishers, 1973. Pp. 101-118.

Toffler, A. *Future Shock*. New York: Bantam Books, 1970.

Toffler, A. *Learning for Tomorrow*. New York: Bantam Books, 1974.